

serum early in the disease and in large amounts. The time limit between onset and treatment was set at forty-eight hours, and of the 26 cases treated, 18 were treated within this time. Apparently the best results were obtained in cases treated within thirty hours after onset, though beneficial results were obtained in one instance as late as ninety-six hours after onset. Of 12 cases which showed paralysis at the time serum was first given, one patient died ten hours after the serum was given, 2 patients suffered some degree of extension of the paralysis, while the remaining 9 showed no extension of the paralysis. Of 14 cases in which no paralysis was detected at the time serum was administered, 2 patients developed respiratory paralysis and died; and 2 others developed some degree of weakness or partial paralysis of certain muscle groups. The 10 remaining cases (72 per cent.) never showed any detectable weakness. In the ten instances in which no paralysis occurred, the fever, sometimes high, tended to fall rapidly to normal, the average time of the fall being 25.7 hours. The authors believe that this moderate number of cases is sufficient to demonstrate the harmlessness of the serum when introduced intraspinally. The gravity method of injection was always employed. Each sample of serum was tested bacteriologically and in every instance a Wassermann test was made to exclude syphilitic taint. Particular care was taken to obtain serum free from corpuscles or hemoglobin. With attention to these details reactions to the serum treatment may be reduced to the minimum. The question of multiple and repeated injections of the serum has not yet been worked out. In the cases here reported and especially in the group in which no paralysis existed at the time of the first injection, the pathological process either did not progress at all, or where there was extension, as in two cases the upper segment of the spinal cord became rapidly involved, and was followed by respiratory paralysis and death. Probably in cases in which some degree of muscular weakness develops soon after the injection of serum, reinjection twelve to twenty-four hours later may be advantageous.

Intraspinal Treatment of Neurosyphilis with Standardized Salvarsanized Serum.—STONER (*Jour. Am. Med. Assn.*, 1917, lxxviii, 610) concludes from his experience with the treatment of 72 cases of various forms of neurosyphilis that Ogilvie's modification of the Swift-Ellis method gives the most satisfactory results yet obtained, and with the minimum discomfort to the patient. By this method at least half of the patients have no discomfort at all, and most of the remainder have only trivial symptoms of transitory character. He says that with experience there is no greater risk in giving intraspinal treatment than intravenous. In none of the 72 cases was there evidence of untoward effects following treatments. The average number of spinal injections to a patient was four and the maximum, twelve. The spinal fluid leukocyte count was made normal in 40 per cent., the spinal Wassermann negative in 12 per cent., the globulin negative in 20 per cent., and the spinal fluid made entirely normal in 10 per cent. The spinal fluid improved in nearly 37 per cent., but remained unimproved in 13 per cent. Two-thirds of the patients were improved in one or more symptoms. It was found that clinical improvement did not necessarily parallel laboratory improvement. Paresis did not

show satisfactory results from the treatment, and the method did not seem of value in cases in which marked changes in the nervous structures had already taken place, as was to be expected. The author says that experience leads one to believe that intraspinal treatment cannot replace general treatment but must be used as an adjunct. He does not believe that intraspinal therapy is indicated in early neurosyphilitic involvements unless general treatment has failed. However, it is striking how much relief a single intraspinal treatment will give in early neurosyphilis when general treatment has failed. The author states that not all cases of neurosyphilis are amenable to treatment, but a surprisingly large percentage of patients were improved symptomatically and biologically if treatment is rationally and intensively employed.

PEDIATRICS

UNDER THE CHARGE OF

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The Place of Infant Welfare in Public Health Instruction.—KNOX (*Jour. Am. Med. Assn.*, vol. lxi, No. 14). "Eighteen per cent. of the total mortality of all ages occurs under one year. Infant mortality can be reduced by known methods, from one death within a year, to every five babies born (which is the rate in many portions of the country) to one death in every twenty babies born, which is the rate under satisfactory hygienic conditions, and which means the saving each year in the whole country of approximately 200,000 lives, a larger number than would be saved by the complete eradication of tuberculosis. If the capitalized value to the State of an infant life is, as has been claimed, \$5000, the loss of wealth represented by this human wastage can be roughly estimated. It is to be emphasized, too, that babies that come healthfully through their first year look forward to a much longer life expectancy than do the cured patients from any illness. . . . In presenting the subject of infant welfare to students of hygiene, three distinct lines of approach should be followed. In the first place, infant welfare must be studied in relation to other branches of hygiene, of which it is an integral part. Therefore much that should be taught in a general curriculum of such a school requires no duplication in presenting the subject of infant welfare, except that the relation of the latter to the subject considered must be emphasized. For it is true that nothing is done in the community to improve health conditions in general which does not help the baby. Thus, for example, vital statistics, particularly birth registration, form the foundation of any infant welfare work. . . . The same can be said of general sanitation, housing, water supply, milk supply, and of industrial occupations and venereal disease in their relation to the health of the infant. . . . It would seem that infant welfare falls naturally into